Pacific Community
Communauté du Pacifique

Ecosystem Indicators

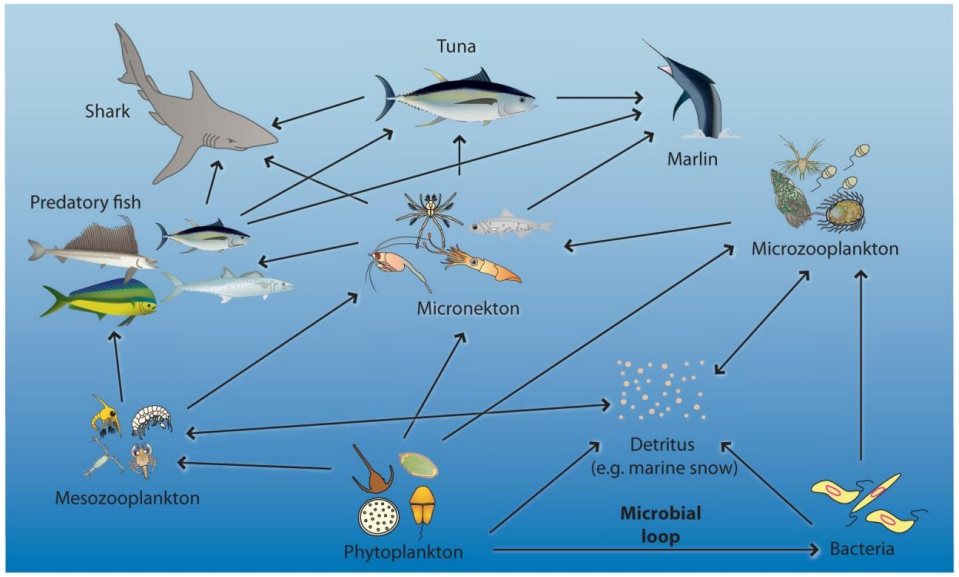
Smith, Allain and Pilling

EB-WP-02

SC12, 2016 Bali, Indonesia

Overview

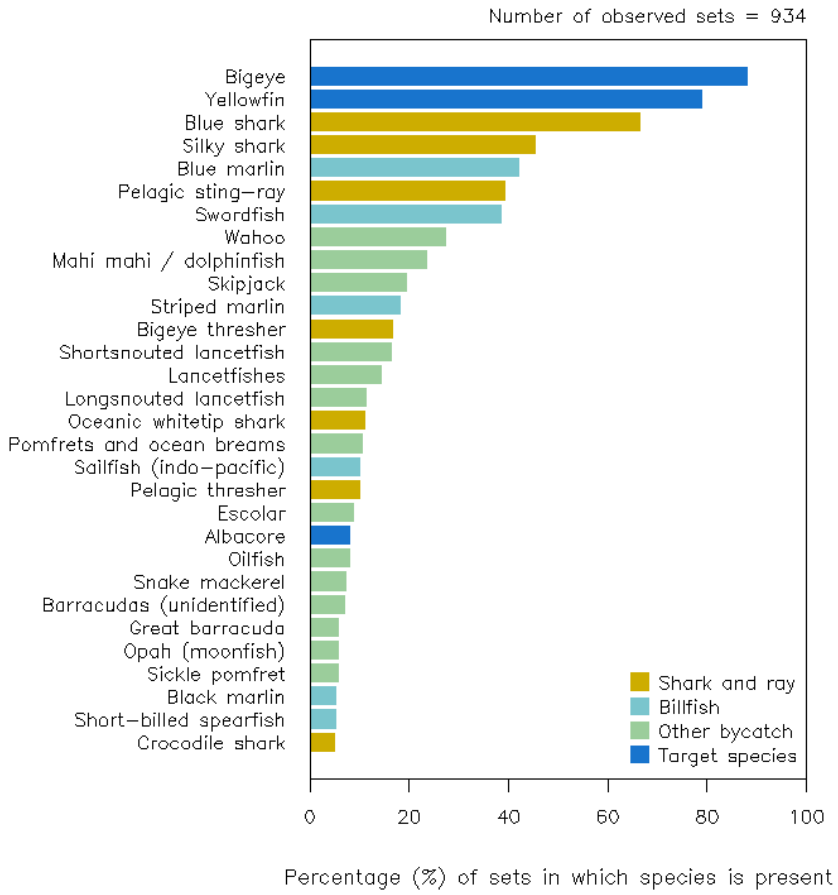
- Introduction
- Moving forward
- Conclusions
- Work plan
- Recommendations



Stylised warm pool area ecosystem food web

Introduction

- Convention
- Strategic Research Plan
- Why ecosystem indicators
- External drivers
- The paper



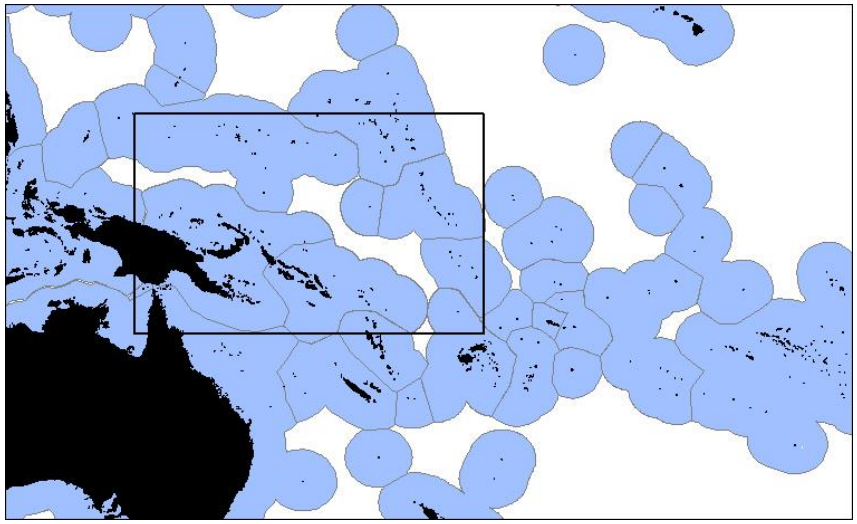
Why Ecosystem Indicators?

- Fisheries management and informed risk management
- Tuna live in an ecosystem
- Reducing risk in decisions
- Early warning of issues
- Support for MSE

Tuna diet analyses

Moving Forward: work to date

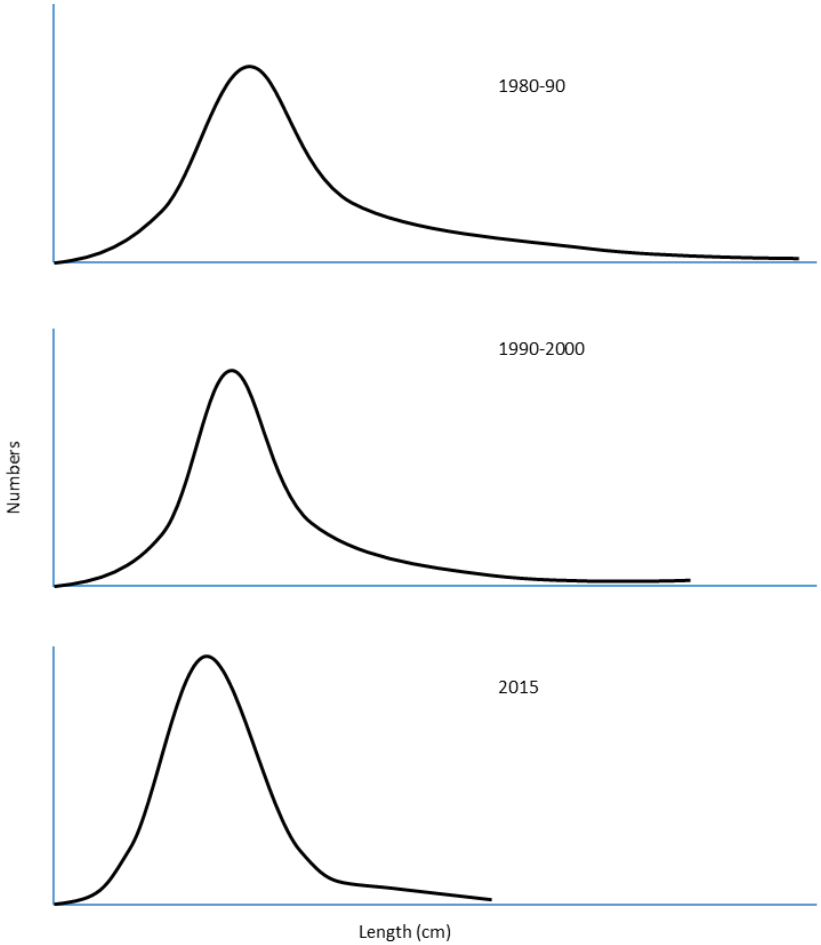
- Pressure-State-Response (2005)
- Size spectrum and area (2005)
- Knowledge of the underlying system (2012)
- Warm pool design and testing (2015)
- Shark indicators (2015)



Warm pool area

Moving Forward: range and availability

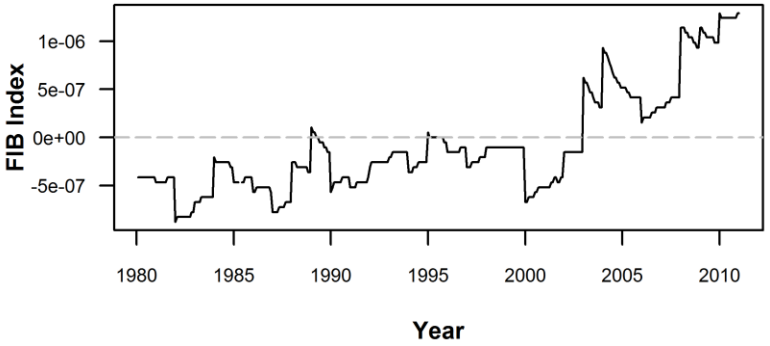
- A range of indicators
- Maintain data efforts
- Candidate indicators already available
- SEAPODYM
- Easy to develop indicators from existing data

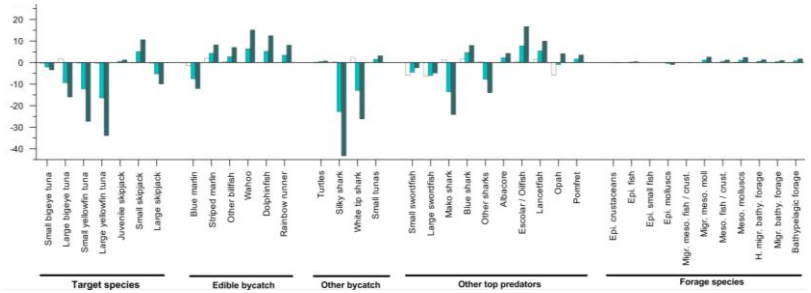


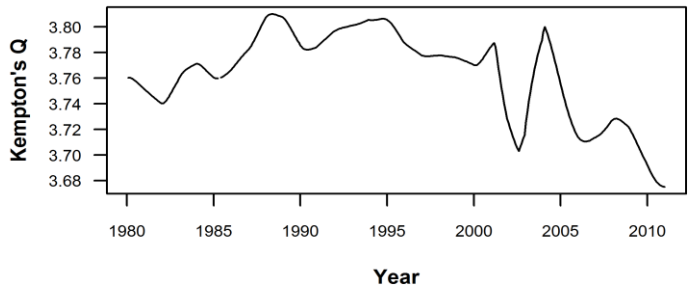
Size structure the catch of a hypothetical fish population Z, as might be derived from observer sampling data, 1980-90, 2000-2010, and 2014.

Moving Forward: design and testing

- A framework which meets needs is tractable
- Suite of pragmatic indicators
- WCPFC relevant and external drivers
- Character and state
- Global and tRFMO work
- Links to MSE work







Conclusions

- Propose SC begin design and testing of ecosystem indicators
- Indicators need to be clear metrics easily incorporated into advice
- Previous work provides guidance on nature and extent of indicators
- A range of existing indicators are available and many more can be developed readily
- Ecosystem indicators should enable more precise specification of the range of decisions leading to desired or effective outcomes, and reduce the risk of bad outcomes from decisions
- Substantive work is in design of appropriate indicators and testing them

Work plan: year one

- Information collation
- Engage experts
- SC review of progress and development
- Engage more broadly in design

Task	Timeframe
Conduct a technical review of other RFMO ecosystem indicator work, and broader development in ecosystem indicators	Jan-Apr 2017
Expert workshop to develop a range of candidate ecosystem indicators for the WCPO	May 2017
SC discussion on the range of candidate ecosystem indicators for the WCPO from the expert workshop	Aug 2017
Engage broader stakeholder base in discussion on the range of candidate ecosystem indicators	Sep – Dec 2017

Work plan: year two

- Compilation of data and investigative analyses
- Expert workshop on testing indicators
- Incorporate indicators into a plan which identifies implementation requirements
- SC review

Compilation of data and analyses to inform testing of ecosystem indicators	Oct 2017-Jan 2018
Expert workshop to test the refined range of candidate ecosystem indicators for the WCPO	Jan-Feb 2018
Review indicators and data requirements and integrate into WCPFC fisheries and ecosystem monitoring programme	Feb 2018-Apr 2018
SC review of the range of candidate ecosystem indicators for the WCPO	Aug 2018

Recommendations

Considering the importance, utility, and use of such indicators, we invite the SC to:

- Note the proposed approach for the design and testing of ecosystem indicators for WCPO for use by WCPFC
- Consider the importance of this work programme and its prioritisation within the SC work plan
- Provide direction on the scope of the work, timing, and the implementation
- Consider funding from the SC budget or other sources to resource the work.